GSFCSSI2 Version 2.2 Release Notes

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18 November 2025
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These notes accompany the release of Version 2.2 (V2.2) of the GSFCSSI2 composite solar spectral irradiance (SSI) data product. This data set is an extension of the GSFCSSI2 product described by *DeLand et al.* [2019], which was first released in May 2019 and updated in January 2023 (V2.1). The V2.2 product now extends through 2 March 2025, and includes two new revisions relative to V2.1 that are summarized below.

1. TSIS-1 SIM Version 13 (V13) measurements [*Richard et al*., 2024] are now used to provide daily SSI data between 200-265 nm from 02/25/2020 to the present.

2. The Aura OMI input SSI data set has been extended to 03/02/2025 and updated to the V7 release product. Further information about the OMI V7 product is available on the LISIRD web site.

Two additional revisions were introduced for the V2.1 product relative to the original V2 product.

3. The reference SSI spectrum used for normalization of each input data set has been changed to the Hybrid Solar Reference Spectrum (HSRS) created by *Coddington et al.* [2023].

4. The SORCE SOLSTICE input SSI data set has been extended to 2/24/2020 (end of SORCE mission) and updated to the V18 release product.

References

Coddington, O. M., E. C. Richard, D. Harber, P. Pilewskie, T. N. Woods, M. Snow, K. Chance, X. Liu, and K. Sun (2023). Version 2 of the TSIS-1 Hybrid Solar Reference Spectrum and extension to the full spectrum. *Earth and Space Science*, *10*, e2022EA002637, https://doi.org/10.1029/2022EA002637.

DeLand, M. T., L. E. Floyd, S. Marchenko, and R. Tiruchirapelli (2019). Creation of the GSFCSSI2 composite solar spectral irradiance data set. *Earth and Space Science*, *6*, 1284-1298, https://doi.org/10.1029/2019EA000616.

Richard, E., O. Coddington, D. Harber, M. Chambliss, S. Penton, K. Brooks, L. Charbonneau, C. Peck, S. Béland, P. Pilewskie, and T. Woods (2024). Advancements in solar spectral irradiance measurements by the TSIS-1 spectral irradiance monitor and its role for long-term data continuity. *J. Space Weather Space Climate*, *14*, 10, https://doi.org/10.1051/swsc/2024008